

CONTRACT SPECIFICATIONS

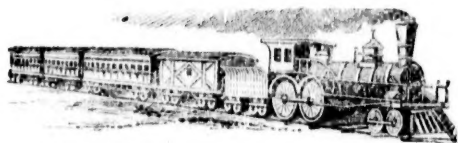
AND

AN ACT

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Respecting the construction of *the Quebec, Montreal, Ottawa and
Occidental Railway*—(late North Shore.)



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LE CANADIEN STEAM PRINTING.

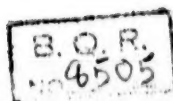
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CONTRACT

BETWEEN

THE HONORABLE THE EXECUTIVE COUNCIL OF
THE PROVINCE OF QUEBEC,

AND

THE HONORABLE THOMAS MCGREEVY.

No. 7409. 24th September, 1875.

On this day, the twenty fourth of September, one thousand eight hundred and seventy five. Before us the undersigned, Notaries Public for the Province of Quebec, residing at the city of Quebec, personally came and appeared: the Honorable Thomas McGreevy, of the city of Quebec, contractor, of the first part;

And the Honorable the Executive Council of the Province of Quebec, hereto represented and acting by and through the Honorable Charles Boucher de Boucherville, Secretary of the Province of Quebec and Minister of Public Instruction, duly authorized to the effect hereof by an Order in Council, bearing date the twenty fourth of September, one thousand eight hundred and seventy five, a copy whereof is hereunto annexed to form part of these presents, of the second part.

Which said parties have declared and agreed as follows, to wit :

Whereas on the fifth day of April, one thousand eight hundred and seventy two, by deed passed before J. A. Charlebois, Notary Public, at Quebec, Perry H. Smith, Esq., Samuel L. Keith, Esq., and George L. Dunlap, Esq., all of the city of Chicago, United States of America, Railway Contractors, entered into a contract with the Honorable Joseph Cauchon, of Quebec, President of the North Shore Railway Company, acting in his said quality and duly authorized to that effect for the construction and equipment of the North Shore Railway and Piles Branch of the said North Shore Railway, extending from the city of Three Rivers, to a point at or near the Grand Piles, upon the St. Maurice River, and for the construction of a Steamboat on the said River for the price and subject to the conditions therein expressed, and according to the specifications thereto annexed ; the whole as more particularly set forth and described in a copy of the said contract ; and whereas on the thirteenth day of June, one thousand eight hundred and seventy three, by deed passed before J. B. Parkin, Notary Public, at Quebec, a supplemental contract was also entered into between the said Samuel L. Keith, acting as well for himself as in his quality of Attorney duly authorized of Perry Hiram Smith and George Lincoln Dunlap, all of Chicago, Railway Contractors, carrying on business in co-partnership under the name and style of « The Chicago Contracting Company, » and Colonel Wm. Rhodes, of Benmore, in the parish of St. Columba of Sillery, Esq., in his quality of President of the North Shore Railway Company, duly authorized to that effect, respecting the construction of the said North Shore Railway and Piles Branch, as therein fully expressed ;

And whereas on the fourth day of January, one thousand eight hundred and seventy four, before Henry C.

Austin, Notary Public, at Quebec, the said Pery H. Smith, Samuel L. Keith and George L. Dunlap did assign and transfer unto the said Honorable Thomas McGreevy, all their rights, title and interest in the said two above cited contracts, for the considerations and subject to the conditions therein expressed.

And whereas on the twenty first day of February, one thousand eight hundred and seventy four, by deed passed before J. A. Charlebois, Notary Public, at Quebec, the said Honorable Thomas McGreevy entered into a supplemental contract with the said Colonel William Rhodes, in his said quality, respecting the construction and equipment of the North Shore Railway and the said Piles Branch hereunto annexed and specially referred to as forming part of these presents :

And whereas, by a report dated the thirteenth of March, eighteen hundred and seventy five, at Quebec, Charles Baillargé, Esquire and Alexander Luders Light, Esquire, Engineers, recommended certain additions, alterations and improvements to be made in the construction of the main line of the said railway as more fully appears by a copy of the said report hereunto annexed and especially referred to as forming part of these presents ;

And whereas, on the eleventh day of August, one thousand eight hundred and seventy five, by a resolution adopted at a meeting of the Directors of the said North Shore Railway Company, it was resolved as follows, that is to say :

« That the present position of the money market in
« Canada, and the strong though unfounded opposition
« manifested in certain quarters in England to the invest-
« ment of money in Canadian Railway securities, pre-
« venting the sale of the Bonds of this Railway Company,
« require that the Government of the Province of Quebec
« should be informed of the position in which the Company

“ find themselves situated, the company declare they are
“ unable to construct the road under existing arrangements,
“ and they desire to urge upon the Government the imper-
“ ative necessity, under the circumstances, of prompt
“ Government action. The Company are therefore ready
“ to allow the Government to deal with the question in any
“ way they may, in the public interest think proper,
“ making such arrangements with the contractor as may
“ be found necessary.”

And whereas, on the twentieth day of August, one thousand eight hundred and seventy five, at a special meeting of the Council of the City of Quebec, it was resolved as follows, to wit :

“ That this Corporation by its subscription of a million
“ dollars to the capital stock of the North Shore Railway
“ Company, has given undisputable evidence of the deep
“ interest it has taken in the construction of the North
“ Shore Railway, that in view of the said Company having
“ declared its inability to continue the construction of the
“ said road, under existing arrangements, no further
“ payments be made to it by this Corporation, but in lieu
“ thereof, the Provincial Government be respectfully
“ informed that should they take steps to insure the early
“ completion of said road, this Council will pay to them
“ the balance unpaid of its subscription to the stock of said
“ Company, as provided by law, on the express condition
“ however, that in no case shall this Corporation be called
“ on for the payments of interest on the stock issued and
“ to be issued in virtue of said subscription before the road
“ will have been constructed throughout the whole dis-
“ tance between the cities of Quebec and Montreal, and
“ placed in good working order, and pursuant to the con-
“ dition of said subscription.”

And whereas, in view of the large sum of money already paid out in aid of the said enterprise, under the provisions of the Quebec Railway Act of 1874, and on the im-

portance of this road as a line or part of a Provincial line of road, it is in the public interest that the said road should be completed.

Now therefore these presents, and we, the said Notaries, witness, that the said parties hereto, acting as aforesaid have covenanted and agreed as follows, that is to say :

The said Honorable Thomas McGreevy hereby undertakes, binds and obliges himself toward the said party of the second part, to do and perform all the obligations and to execute all the works which under his aforesaid contract, of date the twenty first of February, one thousand eight hundred and seventy four, he was bound to do and perform to and in favor of the said Company, subject however to the requirements of a certain circular called circular No. two, dated the twelfth of June, one thousand eight hundred and seventy four, signed Silas Seymour, and hereunto annexed to form part of these presents and subject also to such changes as by the said report of Messrs. Baillargé and Light have been introduced in said proposed work ; and subject moreover to any additions, alterations and improvements which have been set forth or are delineated or appear in the contract Schedules marked A. B. and C., and in the amended profiles and plan marked No. *one, two, three, four and five* herewith signed and specially referred to as forming part of these presents ;

1. The party of the first part hereby covenants and agrees to make all changes in grades, plans, specifications and otherwise, in conformity with the Government requirements from time to time, as the said work progresses, and it is fully understood and agreed by and between both parties hereto, that the profiles, plans, working, drawings and detailed specifications of the different works, structures, buildings and equipments, shall be made by the said contractors and fully approved by the Government Engineers before work is begun upon them, and that all work

and materials shall be subject to his inspection and approval before being accepted and paid for by the Government ; it is further understood and agreed by and between the said parties hereto that the decision of the Government trustees or commissioners, upon the report of the Government Engineer, shall be final and conclusive as to all materials used or work done or in course of doing, which materials shall be of the best description of their respective kinds and satisfactory to said Engineer, and such as shall ensure a first class road, which the said Honorable Thomas McGreevy, doth hereby bind and oblige himself to contract and deliver.

2. And it is hereby agreed and understood that all divisional Engineers and Inspectors employed on the said road shall be appointed by the commissioners or trustees and under their control, and subject to removal by them if need be, although paid by the said contractor and as to all assistant engineers under said divisional engineers, they shall be nominated by the contractors, but their appointment shall be first approved by the said commissioners and under their control and subject to removal if need be by the Chief Engineer, although paid by the said party of the first part :

3. It is further expressly understood and agreed by and between the parties hereto that the work to be done and materials therefor furnished on main line, under this contract, shall be determined and governed firstly by a certain schedule of quantities dated the twenty third of October, one thousand eight hundred and seventy four, hereunto annexed and marked A, and secondly by an amended schedule covering the same work with some additions thereto, said amended schedule marked B prepared and signed by the Government Engineer, and bearing date the first September, one thousand eight hundred and seventy five, and as to such portion of said work to be done on the Piles Branch, the schedule of work and materials shall

be the schedule hereunto annexed marked C and herein before referred to.

4. It is further agreed and understood that in case any alterations are made in the location of the line or road or in the construction of such part thereof which will increase the cost to the said contractor, either in grading, bridging or length of line, &c., &c., the said contractor shall be paid such additional cost *pro rata* with the schedule then in force, and at prices mentioned therein, and in case of any decrease in the cost of construction consequent on any such change of line, a corresponding deduction shall be made by the said contractor as per schedule rates.

5. It is hereby agreed that as to the manner of settling for the work already done on the said line, the amount thereof shall be ascertained by the Government Engineer, its value shall be fixed by the schedule of prices hereunto annexed, marked B., bearing date first September, and the gross sum thus ascertained, after deducting drawback hereinafter mentioned and the amounts already paid, the balance shall be paid to the said party of the first part, and and as to the manner of settling for the work to be done hereafter by the said contractor, it shall be done as follows, monthly estimates of the quantities thereof and of the material which are *bona fide* in the possession of the contractor on the said Railway shall be made by the Government Engineer under the said schedule by him prepared marked B, and hereto annexed, and the amount thereof paid on or before the fifteenth day of the succeeding month, less such deductions as are stipulated for under this contract, as a drawback for the due and ultimate fulfilment of the said work.

6. It is further understood and agreed that the Government Engineer may change the schedule rates of prices, if found necessary, to secure the full completion of the road ; or in case the schedule already made bear too hard upon the contractor, subject however to the approval and

ratification of the Lieutenant Governor in council, but in no case shall the cost of the road exceed the gross price hereinafter mentioned.

7. It is further understood that no work done or material furnished upon which a line of any kind exists, shall be included in any progress estimate furnished by the Government Engineer.

8. It is further expressly agreed and understood by and between the said parties that ten per cent of each monthly progress estimate shall be retained by the Government as security for the due fulfilment of contract by the said contractor, and when the amounts so kept back shall amount to, at least, one hundred thousand dollars, five per cent on each monthly estimate thereafter may be retained till the final completion of the contract in all its parts, and the acceptance thereof by the Government.

9. It is further agreed and understood that if the contractor refuses or neglects to meet within a reasonable time, any of the obligations or payments which he has assumed under these presents, or if delays for an unreasonable length of time the payment for labor performed or materials purchased for in connection with the road, then and in any of the said cases, the Government shall have the power to make such payments and to deduct the amount thereof from the said contractor's estimate.

10. The party of the first part covenants and agrees to use and employ steel rails of the best quality and pattern weighing fifty six pounds per lineal yard for the main through tracks, the switches and sidings to remain of iron of the same weight and pattern. The party of the first part covenants and agrees also to build iron truss bridges of the best quality and most approved plans for the crossings of the Ste. Anne, Batiscan, St. Maurice and Ottawa Rivers. all other bridges to remain of wood.

11. The said party of the first part hereby covenants

and agrees to pay for the entire right of way from the Harbour of Quebec to a point within the City of Montreal at or near the northeasterly limits thereof, as the Commissioners shall determine hereafter, as well as all engineering, contingent and incidental expenses connected with the said Railway and Branch, and the organization required to carry on the works till fully completed and accepted: it being expressly understood that the only expenses payable by the Government shall be those of the Government Engineer, and that all other disbursements necessary for the full construction and equipment of the said railway and branch and all grounds necessary in the opinion of the Chief Engineer and Commissioner for station houses, depots, machine shops, &c., shall be made and paid by the said Honorable Thomas McGreevy, at his own cost and charges, and shall not only include those connected with the buildings and equipment of the said railway and branch in all their parts, including buildings and rolling stock, &c., &c., but also the interest on the City of Quebec bonds or stock, granted towards building the said road, until the railway is open between Quebec and Montreal, as mentioned in the above cited contract, as well as the sum of five thousand dollars per annum towards the salaries and expenses of the trustees or commissioners who may be appointed by the Provincial Government, and including the repayment of all stock actually paid up by private shareholders which shall be refunded by the said contractor, also all and every accounts due to any party or parties for labor done, services performed or materials furnished heretofore and at present unpaid, and also such accounts as the trustees or commissioners to be hereafter appointed may consider just shall be paid by the said contractor.

12. The said party of the first part hereby further covenants and agrees to extend the said Railway to deep water in the Harbour of Quebec as contemplated in the existing arrangements and agreements.

13. The party of the first part doth hereby undertake promise, bind and oblige himself, his heirs and assigns to fully and faithfully perform and execute all the conditions and the covenants herein contained and set forth, as well as those mentioned and set forth in the above cited contracts and report of Baillargé and Light assented to as above mentioned (which are not hereby annulled) subject and according to the specifications thereunto annexed and to the specifications hereunto annexed, relating as well as to the main line as to the Piles Branch, steamboat on the St. Maurice, &c., &c., for and in consideration of the sum of four millions seven hundred and thirty two thousand three hundred and eighty-seven dollars and fifty five cents, which shall be paid to him as hereinafter provided.

14. And it is further agreed and expressly understood by and between the said parties hereto, that the whole line of the main road and Piles Branch with all the buildings, rolling stock, snow fences, &c., steamboat, &c., as referred to in the above cited contracts and herein shall be fully completed and delivered in first class order, so as to be accepted by the Government on or before the first day of December, one thousand eight hundred and seventy seven.

15. And it is further agreed and expressly understood by and between the said parties hereto, that the said Honorable Thomas McGreevy shall proceed with the said work at once, and prosecute the same with all possible speed, and according to the instructions given from time to time by the Government Engineer and failing this, upon a report from said Engineer to that effect, the work may be prosecuted by the said trustees or commissioners, at the costs and charges of the said contractor or that if the contractor fails to prosecute the said work in a proper manner or at a rate of progress that will ensure its completion within the time specified, that then, and in any of the said cases, the Government shall have power to cancel the whole contract and to enter into other arrangements

for its completion, without any procedure at law being at all necessary by express condition.

16. And the parties hereto hereby declare that although the schedules have been prepared and hereunto annexed, by which the several species of work to be done and materials to be furnished, and the supposed relative quantities and amounts of each have been ascertained and set forth with more or less precision, nevertheless it is hereby declared that all earthworks, masonry, buildings, workshops and erections and every other matter or thing necessary to construct or erect a first class railroad shall be done, furnished and performed by the contractor, and shall be considered to be stipulated for and exigible under the present contract, and no work shall be considered as extra work and allowed for unless a special declaration so characterizing it shall have been made and signed by Government Engineer and the commissioners or trustees, and authorized by the Government before such work shall have been commenced ; it being further expressly agreed and understood that any omission or error in this agreement or in the said above cited contracts and the specifications thereto and hereunto annexed shall not be taken advantage of by the said contractor, but that the whole work done and materials used shall be of the best description, wether specially mentioned or not, so as to secure a first class railway and equipment, and that all work and materials necessary to be done and used to create a first class road shall be considered as coming within the scope and meaning of this present agreement.

17. It is further expressly agreed and understood by and between the said parties that the Quebec City Bonds already paid to the said contractor, shall be kept by him at par, and that the said Contractor shall hereafter receive other similar bonds also at par or cash instead at the choice of the Government, but that the City of Quebec shall not be liable for interest thereon till the road is running as above mentioned in above cited contracts.

18. It is further agreed and understood that should the Government have to guarantee the said City of Quebec against payment of interest on said bonds, then and in that case, the Government shall have the right to retain on the said monthly estimates from future payments to the contractor an amount to enable it to meet the said interest.

19. It is further agreed and understood that all railway bonds already received by the said contractor from the said North Shore Railway Company shall be returned to said Government as soon as these presents have been ratified by the Legislature, and that hereafter no more bonds shall be issued by the said company, and that all the said returned bonds shall be cancelled.

20. It is further expressly agreed and understood by and between the said parties hereto, that the present agreement and contract shall be submitted to the Legislature of the Province of Quebec for its approval, and that should the Legislature not approve of and sanction the same, that then and in that case, these presents to be null, void and of no effect whatever, in the same way as if the same had never been entered into by express condition, and in that last case, all monies that shall have been received in the meantime by the said Honorable Thomas McGreevy, in virtue thereof, shall be considered as paid to him on account of work done on said Railway under the existing law, and deducted from the subsidy to which the said road is thereby and thereunder entitled to receive.

21. And to avoid all doubt and misconception as to what debts of the North Shore Railway Company the said party of the first part is, under these presents, bound to pay and discharge, it is hereby declared that all debts or claims due by the said Company and at present unpaid, which in the opinion of the Commissioners to be hereafter appointed, are due, just and reasonable, shall be paid by

the said contractor, without reference to the aggregate amount thereof.

And it is further declared that clause fourteen of the supplemental contract passed on the 21st day of February, 1874, between the said Railroad Company and the said party of the first part is hereby cancelled and the said bonds therein mentioned are restored to the said party of the second part, and any sum of money which may have been paid under the said clause by the said party of the first part shall not be claimed from the said Railway Company or from the said party of the second part. The intention of this clause being to restore the said bonds back to the said party of the second part, the debts paid under the said clause not to be chargeable to the Province, if these presents are ratified by the Legislature.

Notwithstanding anything in any one of the contracts hereinbefore referred to the said contractor shall be bound to furnish at his own proper cost and charges any and all grounds necessary and required in the opinion of the Government Engineer and Commissioners for the service of the said railway, for station purposes, and to construct the necessary stations, &c., heretofore by him agreed upon; and in the event of the Commissioners dispensing the said Contractor from purchasing any ground for a station in the City of Montreal, the value thereof shall be by him expended upon buildings for station houses, &c., on any ground indicated by the said Commissioners within the confines of the said City of Montreal. It being understood, however, that the contractor shall only be called upon to pay for land for a station near the North Eastern limits of the said City.

It is hereby declared that whenever the words "first class road" are made use of in this contract, the same shall be held to apply to the main line only.

And for the execution of these presents, the parties of

the first and second part have elected their domiciles at the City of Quebec.

Thus done and executed, at the City of Quebec, on the day, month and year first above written under the number seven thousand four hundred and nine in the chambers of the President of the Legislative Council in the Parliament House.

In witness whereof, the parties have to these presents first duly read, set and subscribed their names and signatures, with and in presence of the undersigned Notaries, the said Philippe Huot, one of them keeping the present original of record in his office.

(Signed,)

THOS. MCGREEVY,
C. B. DE BOUCHERVILLE,
E. G. CANNON, N. P.,
PHI HUOT, N. P.

A true copy of the original remaining of record in my office.

(Signed,)

PHI. HUOT, N. P.

NORTH SHORE RAILWAY.

SPECIFICATIONS

FOR THE CONSTRUCTION AND EQUIPMENT OF THE

MAIN LINE.

I.—GENERAL PROVISIONS.

1. The Initial point of the Main Line of the North Shore Railway, will be at or near St. Paul's Market, in the City of Quebec, at such point as the Railway Company may designate. And the Terminal point will be at or near the northeasterly limits of the City of Montreal, at such point as the Railway Company may designate. The location of the line and the arrangement of grades, between the initial and terminal points, will be made under the direction and supervision of the Engineer in Chief, and subject to the approval of the Board of Directors of said Company.

2. The term *Engineer*, when used, either in the contract or specifications, will in all cases refer to the Engineer in Chief of the North Shore Railway, or to any subordinate Engineer, who, acting under instructions from the Engineer in Chief, may, for the time being, have the direct charge and supervision of the work particularly referred to.

3. The work will, in all cases, be under the direct charge and control of the Engineer ; and his orders must

be complied with in every respect, and under all circumstances. He will have power, and it will be his duty to reject, or condemn, at any stage or condition of the work, all workmanship or material, which, in his opinion, may be imperfect or unsuitable; and the same must be immediately corrected, or replaced, to his entire satisfaction. He will also have power to discharge from the work, any foreman, mechanic, or laborer, who may prove to be either incompetent, or disrespectful and riotous in his conduct; and the person so discharged shall not be employed thereafter upon any portion of the work.

4. The work of graduation will be divided into sections, averaging about one mile in length, the sectional divisions being made to accommodate, as nearly as practicable, the economical distribution of the material found in excavations, or required in embankments. But this will not prevent the removal of materials required for the road-bed, or mechanical structures, from one section to another, whenever, in the opinion of the Engineer, it may be necessary or expedient to do so.

5. The right of way, or lands procured by the Railway Company for the roadway, depots, sidings, machine-shops, &c., will not include private roadways to and from the work during its construction, nor lands required by the contractor, for storing and manufacturing timber, stone, and other materials or fixtures, preparatory to their being used in the work. These must be procured by the contractor, at his own proper charge and expense.

6. It is intended that the materials and workmanship, both in the roadway, track, structures, buildings, and equipments, shall all be *first class*, so far as regards strength, durability, and practical adaptation. Nothing superfluous will be required: but everything must be executed neatly, thoroughly, and in good taste, so as not to offend the eye, nor convey an idea of carelessness or want of skill in execution.

7. Working plans and specifications more in detail, for the more important Mechanical Structures, Depot-Buildings, Machine-Shops, Engine-Houses, &c., will be furnished by the Engineer, as they may be required from time to time, during the progress of the work.

II.—RIGHT OF WAY AND FENCING.

1. The lands required for the roadway, depot-grounds, sidings, machine-shops, and other appurtenances of the Railway, must be of such width as the Engineer may direct; and will embrace a width sufficient for a future double track, whenever the same may be required by the business of the road.

2. A good and substantial fence, to be composed of durable material, must be constructed along the boundary line of the Company's lands, upon both sides of the Railway throughout its entire length; and convenient gates must be inserted whenever required for farm crossings or other purposes. In settled portions of the country, the fencing should be completed in advance of the commencement of work upon the road, in order to prevent damages to the adjoining land owners.

III.—CLEARING AND GRUBBING.

1. The ground set apart for the Railroad and its appurtenances must be chopped and cleared to the boundary of the Company's lands. The stumps, bushes, and other rubbish, which are of no value, must either be destroyed by fire, or otherwise removed, so as not to disfigure nor interfere with the work.

2. Trees that are of any value for wood or timber, must be neatly trimmed, and either chopped or sawed to such lengths as the Engineer may direct, and piled in some accessible place for future use. Such portions of this

timber as in the opinion of the Engineer may be suitable for bridges, foundations, cross-ties, or other purposes connected with the work, may be used by the contractor free of charge; but the remainder will be retained and preserved for the use of the Company.

3. Over all excavations, and also under all embankments not exceeding two feet in height, the stumps and other perishable matter must be grubbed out, and removed entirely from the road-bed, slopes and drains. Where embankments exceed two feet in height, it will be sufficient to cut the stumps low; but in no case must they be left so high as to come within two feet of the grade line of the road.

IV.—GRADUATION.

1. The road-bed will be graded for a single track, except where depots, stations, or sidings occur.

2. The road-bed for single track will be not less than twelve feet in width at grade—but will be increased on embankments, according to height, or character of material, at the discretion of the Engineer.

3. The grading will be made of such extra width, at stations and sidings, as the Engineer may direct.

4. All excavations must be made sufficiently wide to allow of ample side drainage.

5. The side slopes of excavations and embankments, which are composed of loose material, will generally be one and a half base, to one vertical—but they will vary from this, according to height, or character or material, at the discretion of the Engineer.

6. The materials composing embankments must be entirely imperishable.

7. Whenever the material found in road-bed or side

excavations is unsuitable for sustaining the permanent track, such other material shall be substituted as the Engineer may direct.

8. Material found in excavations will generally be placed in embankments ; but such material will be wasted, and other material borrowed for embankments, whenever directed by the Engineer.

9. Spoil banks and borrowing pits will be so made as not to disfigure nor interfere with the permanent roadway and slopes ; and they must be dressed up in such form and dimensions as the Engineer may direct.

10. Highways, road crossings, and private roads, contiguous to the Railroad, will be changed, constructed, or rebuilt, whenever directed by the Engineer ; and the work must be so carried on, as not to interfere with the rights and privileges of the public, or adjoining property owners.

11. Whenever stone are found, in rock excavations, that are suitable for masonry structures, or for slope, retaining or rip-rap walls required upon the work, they may be used for such purposes by the contractor ; but when such material is not so required, it will, at the discretion of the Engineer, be retained by the Company for other purposes, and neatly piled up by the contractor, so as to be accessible from the track.

12. Retaining, and protection walls will be constructed ; and the slopes of embankments will be faced with rip-rap, whenever required for the safety of the work.

13. The road must be thoroughly drained in all places, so that no water will be allowed to accumulate and stand either in the cuttings, or along side of the embankments ; and ample bridges, culverts, or sluices must be constructed across the roadway at proper points, for the purpose of leading the water away from the Railroad to its natural channels.

14. In grading for a single track, care will be taken not to excavate side ditches and borrowing pits, nor to deposit waste material, where the same will interfere with the future construction of a double track.

V.—FOUNDATIONS.

1. Foundation pits will be excavated of such size, and to such depth as the Engineer may direct. When below water, they must be kept dry by pumping, bailing, or extra draining, until the excavation is completed, the foundations prepared, and the masonry, or other structure brought above the surface line of the water.

2. Whenever solid rock is not found, the foundations will consist either of paving, concrete, piling or platforms of timber and plank, as the Engineer may direct; the whole to be protected by sheet piling, rip-rap, crib-work, or coffer dams, when necessary: and executed in the most thorough and substantial manner.

VI.—MASONRY.

1. The different varieties of stone work required for abutments and piers of bridges, arch and box culverts, open drains, cattle guards, slope, and retaining walls, &c., must be executed in a skillful and workmanlike manner, after the general plan of alternate headers and stretchers; and must be composed of durable, well-shaped stones, laid upon their broadest or quarry beds, and adapted to the formation of the different works or structures.

2. Bridge abutments and piers, arch culverts, and the side walls of open drains, road crossings, or cattle passes exceeding five feet in height, will be laid in hydraulic mortar; and will correspond in character to what is generally termed first-class rubble masonry. The face stone must be hammer dressed to good beds and joints,

and pitched in, or scabbled, to a line upon the beds and builds, corresponding with the finish line of the work. All angles that are exposed to view, must be cut clean and sharp with the chisel, to an arras of at least one inch in width, and laid to a perfect line. The work will be laid in courses, each of uniform thickness, when the quarry affords strata suitable for that purpose ; but when this is not the case, it will be sufficient to build and level up sections of from two to four feet in height, as the Engineer may direct, with square well-shaped stones of suitable size, brought to close joints and free from spalls, both vertically and horizontally.

3. The coping must be of proper and uniform thickness, neatly hammer dressed upon the face, beds, and vertical joints ; the front angles must be cut square with the chisel, and the stone must be of sufficient width to give a good finishing bond to the work after projecting a few inches over the face of the wall. In cases where the coping forms, the finishing course, or bridge seat for truss bridges, their upper surfaces will be dressed to a smooth and uniform plane ; and they will be securely fastened to each other, and to the main wall, by means of strong iron clamps and dowels, whenever directed by the Engineer.

4. The stone composing the arch, in culverts, must be placed perpendicular to the curve ; and extend entirely through the thickness of the arch, and be dressed throughout to close beds and joints. These must be laid in regular courses of uniform thickness, and the inner faces dressed smoothly to a line with the hammer. The outer, or ring stone, must have an extra finish ; and the key stone must be neatly cut with the chisel, and so placed as to project slightly from the face of the work.

5. The mortar used in masonry must be composed of the best quality of hydraulic cement, mixed in proper proportions, with clean sharp sand ; and applied to the work within the proper time for rendering the adhesion and

solidification most perfect. When grout or concrete are used, they will be manufactured and applied under such special directions as the Engineer may deem applicable to the case.

6. Box culverts, and open drains, sluices, or cattle-guards, not exceeding five feet in height, will be of rubble masonry, and will generally be laid dry. The side walls must be laid up strong and well bonded throughout, the upper course bonding the entire wall. The covering stone of box culverts must be entirely sound, and wide enough to extend at least two thirds across either wall; and generally of a thickness equal to one half of the width or space to be covered. The end walls of box culverts must be laid with extra care and finish, the stone being of good beds and builds, with joints and angles clean and square, so as to be free from spalls. The coping must be of proper and uniform thickness, neatly hammer dressed on the face; and so laid as to have a slight projection over the front wall, and to extend back so as to give a good finishing bond to the work. The ends of the side walls of open drains, &c., will be composed of square well-shaped stones, laid in regular steps or offsets to correspond with the slope of the adjoining bank; and so well bedded and fitted as to require no spalls or wedges to keep them permanently in place.

7. Slope and retaining walls will be laid at such angle, and of such thickness, as the Engineer may direct. The stone must be sufficiently massive, and well bounded, to withstand the lateral thrust of the banks, and also any shock or pressure to which they may be exposed upon the outer surface. The upper course must be as nearly uniform in thickness as practicable, and sufficiently wide to bond the entire wall.

VII.—BRIDGING.

1. The timber composing the bridges must all be of the strongest and most durable kinds: and must be properly

adapted to the specific purpose for which it is intended. It must also be entirely free from sap, shakes, loose or black knots, or other symptoms of decay. The kind, length, and size required for the different structures, must conform to the bills furnished by the Engineer ; and be framed and put together in the most skilful and workmanlike manner, in conformity with the plans and specifications furnished by the Engineer for the respective structures.

2. The iron required in rods, straps, bolts, nuts, washers, &c., must be of the best quality in use for such purposes : and it must be neatly and properly manufactured.

3. The truss bridges must be of a quality equal in strength and durability to the Howe patent truss, the proportions varying according to the length between bearings.

4. Bridges of smaller span, where full trussing is not required, will be built in accordance with the plans and specifications furnished for each particular structure by the Engineer.

VIII.—SUPERSTRUCTURE.

1. The cross-ties must be of the best and most durable timber attainable within a reasonable distance from the line of the railroad. The particular kinds for each locality, will be designated from time to time by the Engineer.

2. The ties will be eight feet long, six inches thick, and if flattened upon only two sides, they must have a bearing surface of at least six inches in width in the narrowest part ; and they must be sawed or cut square at the ends, and of uniform length. The timber must be sound and straight, and either hewn or sewed to a line, with parallel surfaces, at top and bottom. If hewn or sawed upon four sides, they must be six by seven inches throughout their entire length.

3. The iron rails must be of the best quality of English or American Manufacture, weighing not less than fifty six pounds per lineal yard ; and of such form or pattern as the Engineer shall approve.

4. The joints must be properly secured by fish-plates of the most approved pattern, leaving sufficient space between the rails to allow for their contraction and expansion.

5. The track must be laid in the most thorough and workmanlike manner. The cross-ties will generally be laid two feet apart from centre to centre. They must be thoroughly bedded with a maul, and their upper surfaces brought to a perfect line with the straight-edge, so as to conform to the grade-pegs, as given by the Engineer. And the centre of each tie, when laid and properly bedded, must conform to the line of centre stakes as given by the Engineer.

6. The rails will be laid with a gauge of four feet eight and one half inches, and thoroughly spiked with two spikes in each cross-tie, upon alternate sides of each bar, so driven as not to split or otherwise injure the tie.

7. After the rails are laid, spiked and perfectly adjusted, the spaces between the ties must be filled in with proper material, and thoroughly tamped, so as to hold the ties firmly in position, and, at the same time, secure as perfect drainage for the superstructure as possible.

8. Neither the slopes nor the road bed must be disfigured or weakened by taking material therefrom for filling in or adjusting the track.

9. Whenever, in the opinion of the Engineer, the material composing, or contiguous to the road-bed, is unsuitable for ballasting the track, other suitable material shall be substituted therefor, and hauled in upon the track with gravel trains, until the same is thoroughly ballasted to the satisfaction of the Engineer.

10. Switches and sidings shall be put in, connecting either with the main track or with other sidings, at such points as the Engineer may designate. And these sidings shall, if required, be equal in the aggregate to at least five per cent of the main line of track.

11. At all street, public road, and farm crossings, a suitable platform of plank, equal in thickness to the height of the rails, shall be laid and thoroughly spiked down between the rails, and also upon the approaches thereto, so as to insure a safe and convenient crossing.

12. A suitable sign-board, painted in large letters, will be placed at each road crossing, indicating the danger of crossing the track while the engine bell rings.

13. Suitable and permanent cattle guards will be constructed underneath the track, at all public road crossings; and the adjoining fences must be so connected therewith as to prevent animals from entering upon or following the track.

Should the general plan of superstructure, for the whole or any portion of the Railway, be changed hereafter, by common consent, from cross-tie bearings to continuous longitudinal bearings, the following specifications will be substituted for articles corresponding to the same numbers in the foregoing specifications :

1. The longitudinal sills must be of the best and most durable timber attainable within a reasonable distance from the line of the railroad. The particular kinds for each locality will be designated from time to time, by the Engineer.

2. The sills may be of any convenient length not less than fifteen feet, excepting upon curves where they must be of such lengths as will afford a perfect bearing for the iron rails throughout their entire length, and also a suitable margin outside of the rails for proper spiking. They

will be eight inches thick, and, if flattened upon only two sides, they must have an available bearing surface of at least ten inches in width in the narrowest place. If hewn or sawed upon four sides, they must be eight by twelve inches throughout their entire length. The timber must be sound and straight, and either sawed or carefully counterhewn to a line with parallel surfaces at top and bottom; and must be sawed or cut off square at the ends. The sills will be connected together laterally, at proper intervals, by means of cross-ties neatly framed into their upper surfaces, in order to keep the rails to the proper gauge. It is assumed that these ties may be eight feet apart from centre to centre upon tangents, and six feet upon curves, but these distances may be varied, at the discretion of the Engineer, it being understood that the average number of ties will not exceed eight hundred per mile. The cross-ties will be six and one half feet long, five inches wide, and two and one half inches thick, and they must be of sound white oak, or other equally good and durable timber. When framed into the sill, their upper surface must be flush with the surface of the sill; and they must be firmly held in their places by means of a suitable spike or tree nail driven through them into the sill at each joint.

5. The track must be laid in the most workmanlike manner. The sills must be thoroughly bedded with a heavy maul, and their upper surfaces brought to a perfect plane and line, so as to conform to the height of the grade-peggs as given by the Engineer; and the longitudinal centre of each sill, when laid and properly bedded, must be in a line parallel with the centre line of the railway, and such a distance from it as to bring the centre line of the sill directly underneath the centre line of the iron rail, which it is to support.

6. The rails will be laid with a gauge of four feet eight and one half inches, and so arranged as to break joints at least two feet with the sills upon which they rest. They

must be thoroughly spiked to the sills at intervals of three feet upon each side of the rail upon tangents, and two feet upon curves, and the spikes must be so driven as not to split or otherwise injure the sill or cross-tie. One spike must be driven into and through each cross tie, upon the outer side of each rail; and if this spike is two inches longer than the ordinary railroad spike, and of proportionate size, it may be substituted at the tie joints for the fastenings specified at the close of article 2.

7. After the rails are laid, spiked, and perfectly adjusted, the space between and immediately outside of the sills, must be filled in with suitable material to such depth as the Engineer may require, and thoroughly tamped, so as to hold the sills firmly in position, and at the same time secure as perfect drainage for the superstructure as possible.

IX. MACHINE SHOPS, ENGINE HOUSES AND WATER STATIONS.

1. One large and commodious Machine Shop is to be constructed, either of brick or stone, at or near the station at Quebec, of such dimensions, and fitted up with such machinery and other conveniences, as the Engineer may deem suitable and proper for the ordinary repairs, building and rebuilding of the Engines and other rolling stock in use upon the road.

2. One Repair Shop is to be constructed, either of brick or stone, at each of the stations, Three Rivers and Montreal, of such dimensions, and fitted up with such machinery, as the Engineer may deem suitable and proper, for the ordinary repairs of rolling stock at those stations.

3. One Engine House with ten stalls, at a turn-table, is to be constructed, either of brick or stone, at each of the stations Quebec, Three Rivers and Montreal, of such dimensions and details of construction as the Engineer may deem proper.

4. Water Stations, with all modern improvements, shall be constructed, at each of the stations Quebec, Three Rivers, and Montreal; and also at such intermediate stations, or points, at intervals of not less than fifteen miles, as the Engineer may deem necessary and proper, for the safe and convenient working of the road.

X.—PASSENGER AND FREIGHT STATIONS.

1. One large and commodious Passenger House shall be constructed, either of brick or stone, at each of the stations Quebec, Three Rivers and Montreal, of such dimensions, and with such finish and furniture, as the Engineer may deem necessary and proper for the accommodation of the public; and for such offices as may be necessary and convenient for the transaction of the business of the Company at those points.

2. One large and commodious Freight House shall be constructed, either of brick or stone, at each of the stations Quebec, Three-Rivers and Montreal, of such dimensions, and with such offices and fixtures as the Engineer may deem necessary and proper for the convenient transaction of business at those points.

3. A Station House, with passenger and freight accommodations combined, must be constructed, either of wood, brick or stone, at each of the intermediate, or way stations, of such dimensions, and with such furniture and fixtures, as the Engineer may deem necessary and proper for the accommodation of the way business upon the road.

XI.—LOCOMOTIVE ENGINES, AND ROLLING STOCK.

1. Nine first class Passenger Engines, and seven first class Freight Engines shall be furnished upon the road, of such weight, and details of construction, as the Engin-

cer may deem necessary and proper for their respective uses.

2. Ten first class passenger cars; eight second class passenger cars; seven baggage, mail, and express cars combined; eighteen emigrant cars; twenty two cattle cars; one hundred and ten box freight cars; seventy five platform cars; and eighteen hand cars shall be furnished upon the road, of such dimensions, construction, and finish as the Engineer may deem necessary and proper for their respective uses.

These are the specifications mentioned in the foregoing contract, annexed to these presents, certified, acknowledged, and signed by the parties to these presents, and the undersigned Notary, and the said witnesses after the due reading thereof, on this Fifth Day of April, in the Year One Thousand Eight Hundred and Seventy two.

NORTH SHORE RAILWAY.

SPECIFICATIONS

FOR THE CONSTRUCTION AND EQUIPMENT OF THE PILES BRANCH.

The Specifications for the construction and equipment of the *Main Line*, so far as relates to the general character of the work and materials, will apply, and be in force upon the *Piles Branch*, subject only to the following modifications :

1. The lower Terminus of the Piles Branch will be within the limits of the Town of Three Rivers ; and, if the principal portion of the line shall be located by the Railway Company upon the east side of the St. Maurice River, the point of Junction with the Main Line will be so fixed that one bridge over said River will answer for both the Branch and Main Line. The upper Terminus will be fixed by the Railway Company at or near the Grand Piles, upon the St. Maurice River, where a convenient connection may be made with the navigable waters of said River.

2. The right of way will be procured, and the road-bed prepared, without any reference to the future construction of a second or double track.

3. Trestle work may be substituted for embankments and masonry, in extreme cases, where, in the opinion of

the Engineer, either on account of the scarcity of material, or other sufficient causes, it may be justifiable or expedient to do so. But the trestle work, when so substituted, must be made to conform to the plans and specifications furnished by the Engineer.

4. The Iron Rails may be of not less weight than forty five pounds per lineal yard.

5. An Engine-House, with turn-table, must be constructed, either of brick or stone, at the terminal station at the Grand Piles, with stalls for two Engines.

6. A Water-station must be constructed at the Grand Piles ; and also one, if required by the Engineer, at some convenient point between the Grand Piles and the Junction of the Branch and the Main Line.

7. A Passenger and Freight Station combined, must be constructed at the station at Grand Piles ; and also two or more, if required by the Engineer, shall be constructed at some proper intermediate points between the Junction and Grand Piles.

8. The Rolling Stock will be of the same character as required for the Main Line ; one passenger engine ; one freight engine ; two first class passenger cars ; two second class passenger cars ; one baggage and express car ; two emigrant cars ; three cattle cars ; fifteen box freight cars ; twenty five platform cars ; and two hand cars must be furnished upon the Piles Branch.

9. A suitable and permanent Wharf or Landing must be constructed at the Grand Piles, for the convenient transfer of passengers and freight, between the cars and steamboat.

10. A good and substantial Steamboat, such as the Engineer shall approve, and suitable for the navigation of the St. Maurice River, above the Grand Piles ; and, having proper accommodation for the transportation of

passengers and freight, must be furnished upon the St. Maurice River, at the terminal station of the Branch, at the Grand Piles.

These are the specifications mentioned in the foregoing contract, annexed to these presents, certified, acknowledged, and signed by the parties to these presents, the witnesses, and the undersigned Notary, after due reading thereof, on the Fifth Day of April, in the year one thousand eight hundred and seventy two.

SCHEDULE B.

NORTH SHORE RAILWAY MAIN LINE. Contract Schedule for completing the works with Steel Rails and (4) four Iron Bridges, the whole computed at prices to make a bulk sum of \$4,316,000 as arranged by the Government and based on the amended quantities stated in a Schedule dated October 23rd, 1874, and signed Silas Seymour (late) Engineer in Chief. Adding also the increase recommended by Messrs. Baillargé & Light in their report to the Special Committee dated 13th March, 1875, "to render the road acceptable to the Government and the Corporation as a first class Railway," which report was unanimously adopted by the Special Committee in March last.

Description of work.	Quantities.	Com- puted in.	Price.		Amount.	
			\$	Cts.	\$	Cts.
Engineering .....	.....	.....	.....	.....	240,000	00
Fencing and Gates.....	96,810	Rods.	1	30	125,853	00
Clearing and Grubbing.....	380	.....	43	00	16,340	00
Earth Excavation (Schedule 23rd Oct, 1874)..	1,514,200	C. Yds.	.....	28	423,976	00
Additional Earth, recommended by Baillargé and Light	500,000	.....	.....	28	140,000	00
Rock work not in October Schedule.....	21,679	.....	1	00	21,679	00
Excavation in foundations including pumping.	24,574	.....	.....	40	9,829	00
Timber and Plank foundations.....	973,000	Ft. B. M.	22	.....	21,406	00
Crib Timber.....	62,800	.....	.....	17	10,676	00
Piles driven.....	144,000	.....	.....	43	61,920	00
Stone Ballast	6,803	.....	1	70	11,565	00
Iron bolts	26,192	.....	.....	10	2,619	00
Amount carried forward.....	.....	.....	.....	.....	.....	.....

SCHEDULE B.—(Continued).

NORTH SHORE RAILWAY MAIN LINE, &c., &c.—(Continued).

Description of work.	Quantities	Com- puted in.	Price.		Amount.	
			\$	Cts.	\$	Cts.
Amount brought forward.—Continued..						
1st Class Masonry laid throughout in Portland Cement.....	20,115	.....	14	00	281,610	00
Additional Masonry recommended by Bail- large & Light.....	5,000	.....	14	00	70,000	00
Dry.....	11,000	.....	7	00	77,000	00
Additional Dry recommended by Baillargé and Light.....	3,000	.....	7	00	21,000	00
Iron Bridging.....	5,326	L. ft.	85	00	452,710	00
Wooden.....	3,296	.....	30	00	98,880	00
Crib Wharfing Palais Harbour.....	.....	.....	.....	.....	22,000	00
Cross-Ties.....	438,240	.....	.....	25	109,560	00
Steel Rails (R-hammered Blooms).....	13,922	.....	55	00	765,710	00
Iron Rails.....	704	Tons.	40	00	28,160	00
Spikes and Joints.....	1,292	.....	85	00	109,820	00
Laying Track.....	166	Miles.	250	00	41,500	00
Ballasting.....	125	.....	650	00	81,250	00
Switches for Sidings.....	40	.....	130	00	5,200	00
Road and Farm crossings.....	1,618	.....	17	00	27,506	00
Cattle Guards.....	165	.....	65	00	10,725	00

Sign Boards.....	108	.....	10	00	1,080	00
Snow Fences.....	.....	.....	.....	.....	5,000	00
Machine Shops at Quebec.....	.....	.....	.....	.....	35,000	00
Repair Shops (Three Rivers & Montreal.....	2	.....	8,500	00	17,000	00
Engine Houses (10 stalls each).....	3	.....	12,000	00	36,000	00
Tur. Tables.....	3	.....	1,700	00	5,100	00
Water Stations.....	12	.....	1,500	00	18,000	00
Wood Sheds.....	10	.....	850	00	8,500	00
Fixtures and Tools for Shops.....	.....	.....	.....	.....	42,800	00
Passenger Stations (Large).....	3	.....	20,000	00	60,000	00
Freight Stations.....	8	.....	8,500	00	25,500	00
Passenger and Freight combined.....	12	.....	1,500	00	18,000	00
Fixtures and furniture for Stations.....	.....	.....	.....	.....	8,500	00
Locomotives Passenger and Freight.....	16	.....	8,500	00	136,000	00
Passenger Cars, 1st Class.....	10	.....	3,850	00	38,500	00
“ “ 2nd Class.....	8	.....	2,150	00	17,200	00
Baggage, Mail, and Express Cars.....	7	.....	1,700	00	11,900	00
Emigrant Cars.....	18	.....	1,300	00	23,400	00
Cattle Cars.....	22	.....	650	00	14,300	00
Box freight.....	110	.....	600	00	66,000	00
Platform Cars.....	75	.....	430	00	32,250	00
Hand Cars.....	18	.....	65	00	1,170	00
Right of Way.....	.....	.....	.....	.....	.....	.....
Extension to deep water.....	.....	.....	.....	.....	.....	.....
Expenses Railway Co., Commissioners, &c.....	.....	.....	.....	.....	406,306	00
Interest Quebec City Bonds and Contingencies.....	.....	.....	.....	.....	.....	.....
Total.....	.....	.....	.....	.....	4,316,000	00

Quebec, 1st September, 1875.

(Signed),

A. L. LIGHT.

SCHEDULE C.

North Shore Railway, Piles Branch, 27 Miles in length.

SCHEDULE for completing the works with Iron Rails, 45 pounds to the lineal yard, Wooden Bridges and reduced gradients. In other respects the quantities are as stated in the original schedule of October 23rd, 1874. The whole being computed at such prices including sidings as to make a bulk sum of \$416,387.00.

Description of work.	Quantities.	Com- puted in.	Price.		Amount.	
			\$	Cts.	\$	Cts.
Engineering and Supervision.....	.....	.....	.....	.....	26,800	00
Right of Way.....	26	Miles.	.....	.....	5,000	00
Fencing including gates.....	16,882	L. Rods.	.....	60	10,129	20
Clearing and Grubbing.....	236	Acres.	43	00	10,148	00
Earth Work.....	237,525	Yds.	.....	25	59,381	25
Excavation in foundations.....	4,949	.....	.....	40	1,979	60
Timber and plank in foundations.....	92,000	.....	22	00	2,024	00
Masonry laid in Cement.....	4,900	C. Yds.	8	00	39,200	00
“ Dry.....	846	“	6	00	5,076	00
Bridging (Truss).....	216	L. ft.	30	00	6,480	00
“ (Trestle).....	3,405	.....	10	00	34,050	00
Cross Ties.....	74,580	.....	.....	20	14,916	00
Iron Rails.....	2,005	Tons.	37	50	75,187	50
Spikes and Joints.....	220	“	85	00	18,700	00
Laying Track.....	28½	Miles.	200	00	5,650	00
Ballasting.....	20	.....	300	00	6,000	00

Switches for sidings.....	10	.....	130	00	1,300	00
Road and farm crossings.....	125	.....	17	00	2,125	00
Cattle Guards.....	20	.....	65	00	1,300	00
Sign Boards.....	10	.....	10	00	100	00
Engine House at Grande Piles.....		.....	.....	.....	3,500	00
Turn Tables.....		.....	.....	.....	1,700	00
Water Stations.....		.....	.....	.....	3,000	00
Passenger and Freight Stations Combined.....		.....	.....	.....	4,500	00
Fixtures and furniture for stations.....		.....	.....	.....	1,000	00
Locomotives Engines.....	2	.....	8,500	00	17,000	00
Passenger Cars, 1st Class.....	2	.....	3,000	00	6,000	00
“ 2nd “.....	2	.....	2,150	00	4,300	00
Baggage, Mail and Express Cars.....	1	.....	.....	.....	1,700	00
Emigrant Cars.....	2	.....	1,300	00	2,600	00
Cattle.....	2	.....	650	00	1,300	00
Box freight “.....	15	.....	600	00	9,000	00
Platform “.....	25	.....	430	00	10,750	00
Hand “.....	2	.....	65	00	130	00
Wharf at Grande Piles.....		.....	.....	.....	5,000	00
Steamboat on St. Maurice.....		.....	.....	.....	19,361	00
Total.....		.....	.....	.....	416,387	55

(Signed), A. L. LIGHT,

Quebec, 1st September, 1875.

NORTH SHORE RAILWAY.

CIRCULAR No. 2.

FOR THE INFORMATION AND GUIDANCE OF ENGINEER DEPARTMENT AND CONTRACTORS,

WITH REFERENCE TO CERTAIN MATTERS WHICH ARE LEFT OPEN FOR
THE DECISION OF THE ENGINEER, IN THE GENERAL
SPECIFICATIONS FOR THE MAIN LINE.

The contract for the construction and equipment of the North Shore Railway, and the general specifications attached thereto, provide for a *first-class railway* in all respects, so far as the main line between Quebec and Montreal is concerned.

The fact that this was made a condition precedent, which must be complied with before either the Railway Company, or the Contractor, would be entitled to receive the large amount of aid granted to the road by the Provincial Government, and the City of Quebec, rendered it unnecessary to embody in the original specifications, all the details which are usually contained in the specifications for a first-class railway: and many matters of importance were therefore left to the decision of the Engineer, during the progress of the work.

In view of the great importance of insuring a perfect understanding, and harmony of action, at the out-set, as

well as uniformity in the character of work upon all portions of the line; and also for the purpose of facilitating the proper execution of the work, and of carrying out the true spirit and meaning of the contract and original specifications, the following *explanatory* or *detailed* specifications have been prepared in relation to the different classes of work hereinafter referred to, so far as any contingency connected therewith can now be foreseen and provided for.

I.—RIGHT OF WAY.

1. The Right of Way must be secured of sufficient width for the construction of the Railway, and also to allow of the boundary fences being built entirely upon the Company's land, without interfering, either with adjoining lands, or with top slopes of excavations, side drains and borrowing pits required to be made during the construction of the Railway.

2. At points where Stations may be located, the extra width required will be designated by special instructions from the office of the Engineer in Chief.

II.—FENCING.

1. The character of the fencing and gates along the boundary lines of the Railway, as regards the durability of the materials of which they are composed, and the style and workmanship of their construction, must be fully up to the standard of the fencing and gates in general use upon the first-class farms contiguous to the Railway in the Parishes and Counties through which the Railway passes.

III.—EARTH WORKS.

1. The grade line as indicated upon the profiles, is intended to represent the elevation of the bottom of the cross-tie in the superstructure.

2. The minimum width of *twelve feet* as specified for single track, is intended to apply only to cases, both in excavations and embankments, where the native material is of sand or gravel, suitable for the reception of the superstructure without requiring ballast; but when such is not the case, the road-bed will be left with a top width of fifteen feet at sub-grade, so as to allow of one foot in depth of ballast, and a finishing width of twelve feet at grade.

3. The elevation of the sub-grade, will generally be one foot below the grade line as indicated upon the profiles. but it may vary from this at the discretion of the Engineer, after allowing for proper gradients for the superstructure.

4. The finishing width of twelve feet, as above specified, is intended to apply to the road-bed after becoming fully settled, and after the slopes have become firmly fixed in position, so as to be free from the dangers of scouring, slides, &c.; and the Engineer in charge must make due allowance, in extra widths, for height of banks, character of material, and other contingencies of this nature, during the progress of the work.

5. Surface of catch-water drains must be excavated at a proper distance above the top-slopes of excavations, in wet ground, whenever they will have a tendency to turn the water from the slopes and road-way, and lead it into an adjacent culvert or sluice.

6. The present line of location is intended to be the center line of the single track now to be constructed; and the space reserved for an additional track, will be twelve feet in width, and will, as a general rule, be located upon the Southerly side of the present road-bed; but the Engineer in charge may depart from this rule in exceptional cases, having due regard to the distribution and procuring of material, and also to the proper future alinement of the tracks.

7. Whenever there is a scarcity of material for embankments, the space reserved for the double track may be encroached upon for borrowing purposes to a sufficient extent to avoid the necessity of hauling long distances : but before doing this, the adjoining excavations, if within hauling distance, will be excavated to the full width required for double track, or even a greater width if necessary, and the material hauled into bank.

8. In excavating side drains and borrowing pits, care must be taken to leave a sufficient berme, with proper slopes, for sustaining the embankments, and also the division fences, without endangering their stability or usefulness. The width of this berme will generally be two feet, but may be governed by the nature of the material, the height of banks, and the depth of side excavations.

9. The side drains at the foot of the upper side slopes in excavations, whatever may be the depth of cut, or nature of the material, should never be less than one foot in depth, one foot in width at bottom, and four feet in width at top, when the road-way is ready for the superstructure ; and they should always have sufficient longitudinal inclination to carry off the water with facility. Upon the lower side slopes, where the surface drainage is away from the Railway, and the slopes are of moderate height, these drains may be reduced in size. Where the cuts are excavated to sub-grade, these side drains should never be less than one foot in width at bottom, and one-half foot in depth below sub-grade. In cases of very wet material, or where a considerable volume of water is necessarily carried through these drains to a cross opening, they will be increased in dimensions to suit the circumstances.

10. In side hill work, where materials for the adjacent banks are scarce, it is desirable to borrow from the lower side of thorough cuttings to as great an extent as practicable, even to the removing of the entire body of earth down to the level of the grade, from that side of the road-

bed, in order to avoid obstructions from snow, and to facilitate the drainage of the road-bed.

11. The Engineer in direct charge of the work will bear constantly in mind the paramount necessity in this climate, of guarding against the danger of obstructions from snow, in the future running of the road; and he will be expected to adopt every practicable expedient to obviate this danger, both in the formation of earth works, and in the borrowing and disposition of material; having in view also the future construction of snow fences along the line, at all exposed points.

IV.—DRAINAGE.

1. The question of cross or lateral drainage will be made the subject of special observation and study by the Engineer in direct charge of the work; and great care must be taken to adopt openings of sufficient sectional area to pass the waters of the highest floods ever known, or likely to occur in the locality. In cases of doubt, the decision should always be upon the side of safety.

2. Open or beam culverts and sluices will be avoided in all cases where covered box culverts will safely answer the purpose, and where the depth of bank upon the covering will be sufficient to protect the masonry from injury by the passage of trains. Two feet in depth of earth, below the bottom of the cross-tie, should be regarded as a minimum. French drains, and tubes composed of iron or other suitable materials, may be used in cases where it can be done with safety.

3. The side walls of open water or road-ways, cattle guards, &c., of twelve feet spans and under, will be left two feet below grade, in order to allow for a wall plate and longitudinal sleeper for the support of the cross-ties. Whenever the spans exceed twelve feet, these structures, as also the masonry required for piers and abutments of

truss bridges, will be made to conform to the specific plan of such structure.

V. CATTLE GUARDS.

1. Cattle guards will generally be constructed of stone masonry, of the character described in the 6th paragraph, under the head of MASONRY, in the general specifications. This will always be the case when they are used for purposes of lateral drainage ; but when this is not the case, and when suitable stone are not easily attainable, they may, at the discretion of the Engineer in charge, be constructed of good sound cedar, or other equally durable timber, after the plan adopted upon other first-class Railways in Canada.

VI. MASONRY.

1. The term *first-class rubble Masonry*, as used in paragraph 2, under the head of MASONRY, in the general specifications, is intended, so far as regards strength, durability, general appearance, and proper adaptation, to secure work which shall be fully up to the standard for similar structures upon the Intercolonial, Grand Trunk, Great Western, or any other first-class Railway in Canada.

2. The exception with reference to broken or irregular courses, in extreme cases where the quarry will not afford stone of uniform thickness for every course, must not be construed in such a manner as to result in work which shall be inferior in strength and durability, to ordinary first-class ranged work.

3. The following extract from the *Specifications for the Intercolonial Railway* is given as a guide to the Engineer in charge, contractors and inspectors, with reference to the general character and details of this class of work in the more important structures upon this road :

“ 42. *First-class masonry* shall be in regular courses, of large well-shaped stone, laid in mortar on their natural beds, the beds and vertical joints will be hammer dressed so as to form quarter inch joints. The vertical joints will be dressed back square 9 inches, the beds will be dressed perfectly parallel throughout. The work will be left with the “quarry face,” except the outside arrises, strings and coping, which will be chisel dressed.

43. The courses of first-class masonry will not be less than twelve inches, and they will be arranged in preparing the plans to suit the nature of the quarries, courses may range up to 24 inches, and the thinnest courses invariably be placed towards the top of the work.

44. Headers will be built in every course not further apart than 6 feet, they will have a length in line of wall of not less than 24 inches, and they must run back at least $2\frac{1}{2}$ times their height, unless when they will not allow this proportion, in which case they will pass through from front to back. Stretchers will have a minimum length in line of wall of 30 inches, and their breadth of bed will be at least $1\frac{1}{2}$ times their height. The vertical joints in each course must be arranged so as to overlap those in the course below 10 inches at least.

45. The quoins of abutments, piers, &c., shall be of the best and largest stones, and have chisel drafts properly tooled on the upwright arrie, from two to six inches wide, according to the size and character of the structure.

46. Coping stones, string courses and cut-waters shall be neatly dressed in accordance with plans and directions to be furnished during the progress of the work.

47. The bed stones for girders shall be the best description of sound stone, free from dries or flaws of any kind, they must be not less than 12 inches in depth for the smaller bridges, and eight feet superficial area on the bed. The larger bridges will require bed stones of proportion-

ally greater weight ; these stones shall be solidly and carefully placed in position, so that the bridge will set fair on the middle of the stone.

48. The backing will consist of flat bedded stones, having an area of bed equal to four superficial feet or more. Except in high piers or abutments two thicknesses of backing stone, but not more will be allowed in each course, and their joints must not exceed that of the face work ; in special cases where deemed necessary by the Engineer to insure stability, the bedding shall be in one thickness ; the beds must, if necessary, be scabbled off, so as to give a solid bearing. No pinning will be admitted. Between the backing and face stones there must be a good square joint, not exceeding one inch in width, and the face stones must be scabbled off to allow this. In walls over three feet in thickness, headers will be built in front and back alternately, and great care must be taken in the arrangements of the joints, so as to give perfect bond.

49. Every stone must be set in a full bed of mortar and beaten solid, the vertical joints must be flushed up solid, and every course must be perfectly level and thoroughly grouted.”

Should contingencies occur during the progress of the work, which have not been referred to, or provided for, in the above, they will be immediately reported to the office of the Engineer-in-chief for further information and instructions.

SILAS SEYMOUR,

Engineer-in-Chief.

Quebec, June 12, 1874.

JOINT REPORT

OF

Messrs. C. BAILLARGE and A. L. LIGHT.

Quebec, 13th March, 1875.

A. H. VERRET, Esq.,
Secy. North S. Railway.

Sir,

In accordance with resolutions passed on the 3rd and 12th inst., respectively at meetings of the special committee of the North Shore Railway, wherein Messrs. Baillargé & Light were requested to come to a mutual understanding and make known, with the least possible delay what modifications are necessary to be made in the specifications, and in the plans of the road, to render it acceptable to the Government and the Corporation as a first-class Railway, taking into consideration however, the resources at the disposal of the Company for the construction of their road.

Messrs. Baillargé & Light beg to report on the above as follows :

1st. That the road-bed or base of Ballast be raised more or less equivalent to an average of at least one foot throughout its entire length over and above grade level

shewn on original profiles. With regard to this raising of road-bed we suggest that the whole line be passed over profile in hand and the points where the raising should be made be indicated on that profile.

2nd. That the cuttings be increased from 18 to 24 feet in width to admit of through drainage.

3rd. That although Messrs. Flemming and Light are decidedly of opinion that a width of 17 feet at formation or base of Ballast level, would insure more permanency, safety and ultimate economy yet taking the present resources of the Company into consideration, we are prepared to recommend that a width of not less than 15 feet as now arranged for the M. N. Colonization Railway, be adopted as the width of Formation Level on the N. S. Railway, it being understood that the road-bed shall be so made (with side slopes of not less than one and a half horizontal to one perpendicularly) that it will retain the full width of 15 feet after it has thoroughly shrunk and consolidated.

Where the native material is sufficiently good to be used as Ballast, the road-bed may be raised or left one foot higher and reduced to 12 feet in width at underside of sleeper.

The undersigned are induced to recommend this reduction in width of road-bed, because these embankments can be widened hereafter if desired, without interfering materially with the general plan of the Railway, whenever the resources of the Company will admit of this increase being made.

4th. That a foot of Ballast be placed under the sleepers as well as carried up to the level of their upper surfaces as shewn in the diagram attached. The width of Ballast being 10 feet at the level of top of sleeper and 14 feet 6 inches at the base or Formation level.

5th. That the top width of Piers shall in no case be less than from 5 to 7 feet for spans of from 80 to 160 feet, 5 feet for spans of 80 feet, 6 feet for spans of 120, 7 feet for spans of 160 and proportionately for intermediate or larger spans, which of course will necessitate the rebuilding the Pier at the Jacques-Cartier Bridge, in conformity with this suggestion, or the erection of an additional Pier. Also that the additional thickness required at the Piers of the bridge at Portneuf of which the foundations are already in place, can be obtained by altering the batter thereof.

That these Piers be constructed of first-class masonry. Mr. Light being of opinion that the specifications for masonry in use on the Montreal N. Colonization Railway, from their freedom from ambiguity be adopted on the North Shore Railway and that Portland Hydraulic Cement be used in all first-class masonry in the proportion of 2 of sand to 1 of cement in face work and 3 of sand to 1 cement in the backing and hearting.

6th. That the foundations for Piers in deep water be so altered and strengthened to the approval of the undersigned as to ensure that safety and stability which in their opinion they do not now possess. This modification clause No. 6 we believe is within the scope of the contract.

We have the honor to be,

Sir,

Your obedient servants,

(Signed)

« CHS. BAILLARGÉ, »

« A. L. LIGHT, »

This is the report of Messrs. Baillargé & Light, referred to in the contract entered into between the Honorable the Executive Council of the Province of Quebec and the Ho-

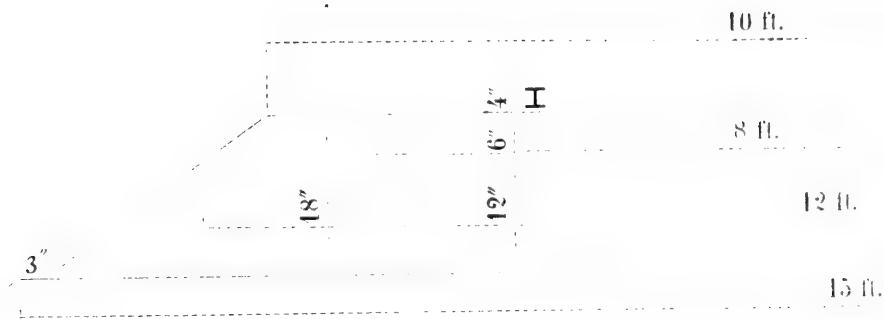
norable Ths. McGreevy, and passed this day before Phil. Huot and his Colleague, Notaries Public, at Quebec.

(Signed) THS. MCGREEVY,
“ C. B. DE BOUCHERVILLE,
“ PHIL. HUOT, N. P.,
“ E. G. CANNON, N. P.,

A true Copy,

PHIL. HUOT, N. P.

Quebec, 24th September, 1875.



SECTION OF ROAD IN EMB

10 ft.

I

8 ft.

12 ft.

BALLAST.

3"

15 ft.

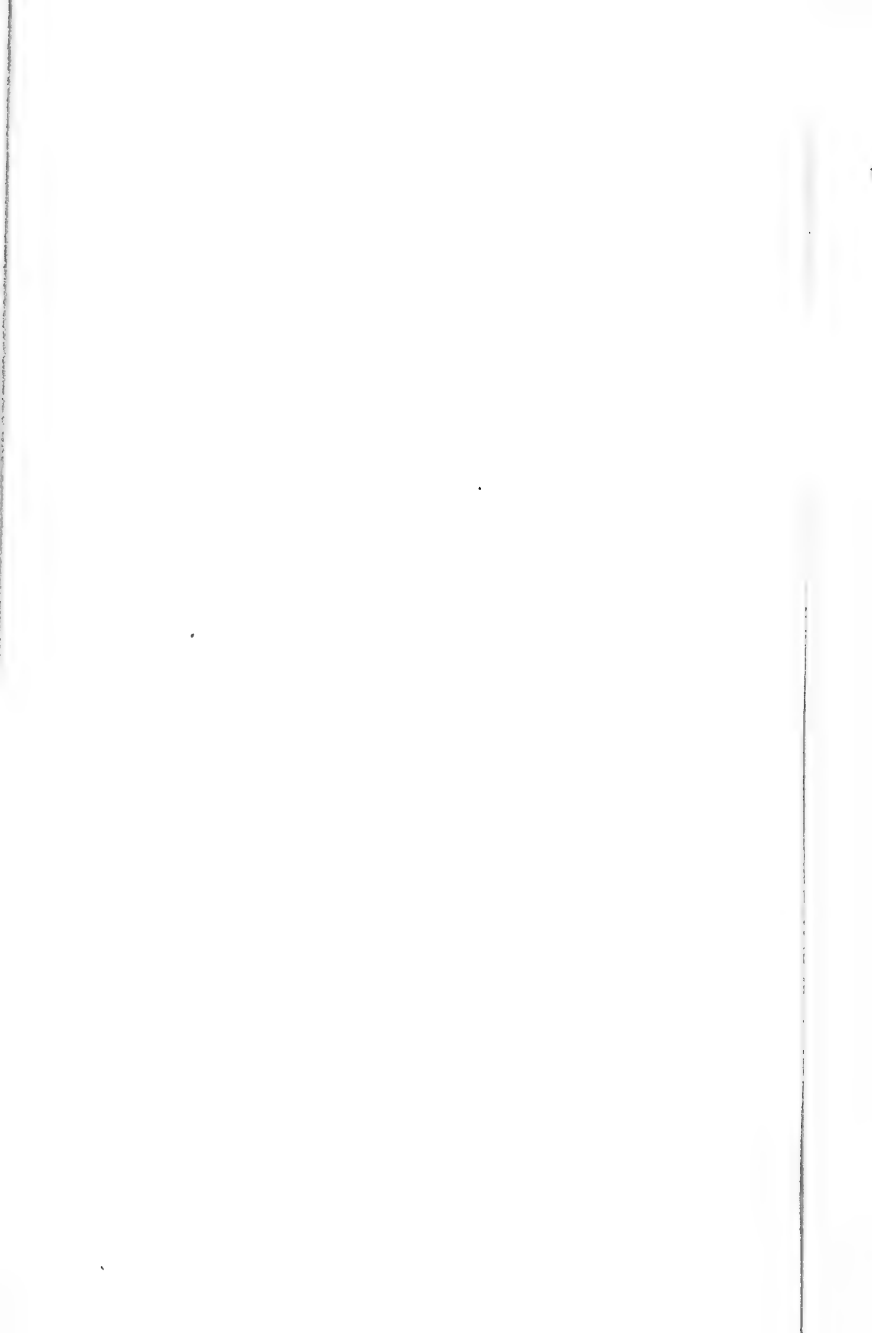
EMBANKMENT

ROAD IN EMBANKMENT.

NOTE :—This cross section is simply intended to shew the arrangement of the Ballasting in connection with the width of Roadbed has no reference to the height of Embankment intended.

{ (Signed.)

CHS. BAILLAIRGÉ.
A. L. LIGHT.



NORTH SHORE RAILWAY.

DETAILED SPECIFICATIONS FOR FOUNDATIONS IN DEEP WATER.

GENERAL DESCRIPTION.

In cases where solid rock is not easily attainable, it is proposed to furnish substantial and durable foundations for bridge masonry in deep water, by means of a *composite substructure*, to be formed of piles, surrounded by a rough, strong crib work, filled with stone.

It is intended that the entire weight of the masonry, and bridge superstructure shall be supported by the bearing piles ; and that the crib shall keep the piles firmly in position ; and at the same time, protect them from the effect of scouring or undermining, by reason of the action of the current upon the bed of the stream.

The following method of construction will be adopted, subject to such modifications as may, from time to time, be directed or approved by the Engineer, during the progress of the work.

CRIB WORK.

The locality of the proposed substructure will be indicated by means of guide piles, firmly driven, at points representing the outer angles or sides of the crib work :

and the outline of the crib must be made to conform to the plans furnished by the Engineer.

The crib will be composed of round timbers, or logs, of the quality and dimensions specified in the bills furnished by the Engineer. These timbers will be neatly locked or fastened together at the joints and angles ; and thoroughly secured in their places, by means of drift-bolts, tree-nails or spikes, of proper size, as the Engineer may direct.

The outside timbers will be sufficiently near each other to retain the loose stone with which the crib is to be filled : and they will be bound together, and kept in their places, by means of ties to be inserted at proper intervals for that purpose.

The crib will be so constructed as to afford vertical chambers for the reception of a sufficient amount of stone to sink, and hold it firmly in its place at the bottom of the river, within the area indicated by the guide piles ; and these chambers will be floored, and sided up, in such a manner as to prevent the stone, as they are thrown in during construction, from falling out and interfering with the proper sinking of the crib, or with the future driving of the bearing piles.

Great care must be taken, in the formation of the bottom of the crib, to insure a perfect adaptation to that portion of the bed of the river upon which it is to rest, so that the entire crib may settle evenly and vertically to a firm bearing, and thus avoid the danger of drawing the enclosed bearing piles out of their proper position.

After the crib has been built up to the required height, and thoroughly secured in position, the driving of the foundation or bearing piles will be commenced in the vacant spaces or chambers left for them in the crib.

BEARING PILES.

The quality, length, and size of the timber composing the bearing piles, will conform to the bill furnished by the Engineer.

The heads of the piles must be cut off square, and, when required by the Engineer, they must be banded with a wrought iron ring of sufficient strength to withstand the blow of the hammer

They must be properly sharpened at the small end, so that the point will come directly under the center of the pile ; and when required by the Engineer, the point must be properly protected by means of a cast or wrought iron shoe.

They must, in all cases, be stripped of bark, and smoothly trimmed of all knots or other protuberances, so that they will pass freely through the leaders of the pile driver.

The piles must be driven vertically, and with precision, at the points designated upon the plans furnished by the Engineer, being generally from two to three feet apart from their centers, according to their length, or the weight which they are to sustain ; and if any pile be driven so much out of place, that in the opinion of the Engineer, it will not afford a firm and proper bearing for the cap, or platform, upon which the masonry is to rest, it must be replaced immediatly by another pile properly driven.

The hammer used for driving piles must be of cast iron, weighing of least fifteen hundred pounds ; and it must fall through the vertical leaders, at least thirty feet at the last blow.

The piles must in all cases be driven to a point where, owing to the firmness of the earth, or other sufficient cause, they cannot be forced more than two inches, at the last blow of the hammer

After being properly driven, the tops of the piles will be brought to, and firmly held in their proper position, as shown by the plan, for the reception of the caps; and while in this position, the spaces within the crib, and between and around the piles, will be filled to the required height, with stones of suitable size for packing well; these stones must be thoroughly settled with a rammer, so as to form an immovable ballast, which will hold each pile firmly in position.

The piles will then be sawed off to such a level, as, with the intervening caps and platform, will bring the bottom of the masonry about two feet below low water mark in the River.

PLATFORM FOR MASONRY.

The timber composing the platform upon which the masonry is to rest, will conform to the bills furnished by the Engineer. It will consist :

First ;—Of caps, flattened to a uniform thickness of not less than one foot, with a least one foot of bearing surface upon each side of the stick. These caps are to be placed transversely upon the piles, and securely fastened to each pile with a drift-bolt, or a two-inch white oak tree-nail—as the Engineer may direct.

Second ;—Longitudinal floor timbers, not less than six inches thick, and twelve inches wide, will be placed six inches apart upon the caps, and securely fastened to them by means of tree-nails, or spikes.

Third ;—Two courses of two inch plank will be laid diagonally in opposite directions, upon the floor timbers, and thoroughly secured with spikes. Upon this flooring of plank, the first course of masonry, consisting of large flat stones, is to rest.

As an alternative to the above method of construction, the entire platform may, at the option of the Contractor, be put together at or near the shore : and, after being furnished with the necessary side and end pieces, for protection against the water, it may be floated to its destination in the form of a scow, and then be sunk, and properly secured to its place upon the piles : thus affording a water-tight caisson in which the masonry may be commenced.

FURTHER PROTECTION.

After the platform has been securely anchored in its place upon the piles, such further protection, or guard piles, shall be driven ; and such additional connections, fastenings and finish shall be put upon the top, and outer side of the crib work, including brush and riprap around the bottom, as may be required by the Engineer, for the purpose of protecting it thoroughly from the injurious action of the water, ice, or any other danger to which the foundation may become exposed.

ANALYSIS OF THE MAIN LINE.

The following analysis of the principal Engineering characteristics of the Main Line, has been prepared, for the purpose of showing the peculiarly favorable features of the North Shore Railway, for the transaction of a heavy freight and passenger traffic.

PRINCIPAL CHARACTERISTICS.	LENGTH.		PERCENTAGE OF ENTIRE LINE.
	Miles.	Feet.	
Entire Main Line.....	158	1954	.....
Straight Line, or tangents.....	144	1613	.90
Curved lines.....	14	341	.10
Gradients either level, or inclining 10 feet, and less per mile.....	102	2722	.65
Gradients inclining more than 10, and 30 feet or less per mile.....	29	5017	.19
Gradients inclining more than 30 feet, and less than 52.8 feet per mile.....	15	3575	.10
Gradients inclining the maximum of 52.8 feet per mile.....	10	1200	.06

TABLE OF DISTANCE.

PROMINENT POINTS UPON THE LINE.	INTERMEDIATE DISTANCES.		TOTAL DISTANCES.	
	Miles.	Feet.	Miles.	Feet.
West End of St. Paul's Market, City of Quebec.....	0		0	
Gosford Railway Crossing.....	4	3730	4	3730
Swede Road.....	2	2290	7	740
Cap Rouge River.....	6	620	13	1360
Paradis Summit.....	5	1000	18	2360
River Noire.....	2	2590	20	4950
River aux Pommes.....	2	1748	23	1418
Jacques-Cartier River.....	1	1420	24	2838
River Portneuf.....	8	4860	33	2418
Opposite Portneuf Church.....	0	4700	34	1838
Opposite Deschambault Church.....	3	5160	38	1718
River Belle-Isle.....	2	1340	40	3058
River Lachevrotière.....	1	820	41	3878
St. Casimir Road.....	3	716	44	4594
St. Anne River.....	7	2720	52	2034
Batiscan River.....	4	980	56	8014
Champlain River.....	6	320	62	3334
Piles Branch.....	11	2216	74	270
St. Maurice River.....	1	3520	75	3790

City of Three Rivers.					
Pointe du Lac.....	1	2920	77	1430	
River St. Charles.....	6	3320	83	4750	
River aux Glaises.....	1	2420	85	1890	
River Yamachiche.....	2	3440	88	50	
Little Yamachiche River.....	2	2840	90	2890	
River du Loup.....	0	4100	91	1710	
Little River du Loup.....	6	320	97	2030	
River Maskinongé.....	0	4300	98	1050	
Opposite St. Barthelemi Church.....	3	4160	101	5210	
River Chicot.....	5	1400	107	1330	
River Bayonne.....	4	5180	112	1230	
Village of Berthier.....	2	342	114	1572	
River Chaloupe.....	0	3900	115	192	
Joliette and Lano'aie Railway.....	1	1087	111	1279	
West End of Location, (Oct. 10th, 1872).....	7	290	123	1569	
River L'Assomption.....	7	2290	130	3859	
River Ottawa (East Bank).....	6	755	136	4614	
River Ottawa (West Bank).....	9	680	146	14	
Pointe-aux-Trembles.....	0	2100	146	2114	
Longue Pointe.....	3	5160	150	1994	
West End of Location, (Oct. 9th, 1873.....	3	3960	154	674	
Opposite Hachelaga Convent.....	0	0000	154	674	
West End of Surveys, Montreal.....	3	1260	157	1934	
	1	0020	158	1954	

AN ACT

Respecting the construction of "the Quebec, Montreal, Ottawa and Occidental Railway."

[Assented to 24th December 1875.]

WHEREAS the "North Shore Railway Company" and the "Montreal, Ottawa and Western Railway Company," heretofore known as the "Montreal Northern Colonization Railway Company," have severally signified to the lieutenant-governor, their inability to carry out the construction of the said lines of road, and whereas they have severally expressed their readiness to surrender to the Government of the province of Quebec, the property and rights of the said corporations, if the government would undertake to construct the said lines of railroad, with the branches thereof to the Grand Piles and St. Jerome; and whereas it is in the public interest that the said roads should be constructed, and therefrom prolonged as hereinafter set forth; therefor Her Majesty, by and with the advice and consent of the legislature of Quebec, enacts as follows:

1. There shall be a railway constructed commencing at the port of Quebec, and extending from deep water in the said port, *via* Montreal, to such point in the county of Pontiac, as may be most suitable for connecting hereafter the said railway, with the subsidized portion of the Canada Central railway and with any other railway, as the lieutenant-governor in council may hereafter decide, including therein a branch line from the city of Three Rivers to the Grand Piles, and another from St. Therese to St. Jerome; and such railway shall be styled and

known as “The Quebec, Montreal, Ottawa and Occidental Railway.”

2. The said railway shall be a public work belonging to the province of Quebec, held to and for the public uses of the said province, and shall be made with a gauge of four feet eight and one half inches, and on such grades, in such places, in such manner, with such materials, and on such specifications, as the lieutenant-governor in council shall determine and appoint, as best adapted to the general interests of the province, the whole subject to any existing contracts which the legislature of the province of Quebec may hereinafter or hereby ratify and confirm

3. The construction of the said railway and its management, shall be under the control of three commissioners to be appointed by the lieutenant-governor in council, who shall hold office during pleasure.

They shall be known by and under the name of “the commissioners of the Quebec, Montreal, Ottawa and Occidental Railway,” and when acting as such, within the powers conferred by this act, they shall incur no personal liability.

4. The lieutenant-governor in council shall and may appoint a chief engineer, and engineers, over the whole or over any section or part of the said road, who shall hold office during pleasure, and to whom the said commissioners shall intrust the general superintendence, under their instructions from time to time, of the works, to be constructed or completed under the present act.

5. The commissioners shall and may, subject to the approval of the lieutenant-governor in council, appoint and employ a secretary, such engineers, surveyors and other officers, and also such agents, servants and workmen, as in their discretion they may deem necessary and proper for the execution of the powers and duties

vested in and imposed on the said commissioners in virtue of the present act.

6. The commissioners shall have full power and authority by themselves, their engineers, agents, workmen, servants and contractors, and the servants and workmen of such contractors ;

1. To examine, explore and survey the present projected line of railway from Quebec westward, and the country adjacent thereto ;

2. And for that purpose to enter into and upon any public land, or the land of any corporation or person whatsoever ;

3. To make surveys, examinations or other arrangements on such lands necessary for confirming, altering, establishing or locating the site of the railway, and to set out and ascertain such parts of the lands as shall be necessary and proper for the railway ;

4. And further to fell or remove any trees standing in any woods, lands or forests where the railway shall pass, to the distance of four rods from either side thereof.

7. The resolution passed on the eleventh day of August last by the directors of the North Shore Railway company, and subsequently to wit : on the 22nd day of November, 1875, as ratified and confirmed by a resolution of the shareholders of the company, purporting to vest and convey all the property of the said railway company in and to the said province of Quebec, shall, at all times and places, be held to be full, final, complete, and effectual to all intents and purposes whatsoever ; and all the property and rights of action of the said corporation and all the franchises and privileges thereof shall be, and the same are hereby vested, in Her Majesty, to and for the public uses of the province ; and the enregistration of a copy of the said resolutions, in any

registry office in any registration division of this province, in which any lands are situated, which have at any time heretofore been conveyed or bonded to the said company, shall have the same force and effect, as if such lands had been specially mentioned in the said resolutions, and separately, and specially and expressly therein described, any provision of any law or act to the contrary notwithstanding.

8. The transfer and assignment passed on the second day of November, one thousand eight hundred and seventy-five, before Mtre. Dumouchel, notary public, by and between the Montreal, Ottawa and Western Railway company, and the province of Quebec, purporting to vest and convey all the property of the said railway company, in and to the said province of Quebec, shall be held to be full, final, complete and effectual to all intents and purposes whatsoever : and all the property of the said corporation, and all the rights and privileges thereof, thereby conveyed or intended so to be, shall be, and the same are hereby vested in Her Majesty, to and for the public uses of this province : and the registration of a copy of the said transfer and assignment, in any registry office in any registration division of this province, in which any lands are situated, which have at any time heretofore been conveyed or bonded to the said company, shall have the same force and effect, as if such lands had been specially mentioned in the said contract or agreement, and separately, specially, and expressly therein described, any provision of any law or act to the contrary notwithstanding.

9. The contract passed at the city of Quebec, on the twenty fourth day of September last past, before Mtre. Ph. Huot and colleagues, notaries, between the Honorable Charles B. DeBoucherville, representing the province of Quebec, and the Honorable Thomas McGreevy, for the construction and completion of that portion of the said railway between deep water in the port of the city of

Quebec, and the city of Montreal, and the branch thereof to Grand Piles, is hereby ratified and confirmed.

10. The contract passed before M^{re}. Dumouchel, notary public, at the city of Quebec, on the sixteenth day of November, in the year of Our Lord one thousand eight hundred and seventy five, between the Honorable Charles B. DeBoucherville, representing the province of Quebec, and Duncan MacDonald, for the construction and completion of that portion of the said railway between the city of Montreal and the village of Aylmer, in the county of Ottawa, with the branch to St. Jérôme, is hereby ratified and confirmed.

11. The provisions of *the Quebec Railway Act* 1869, so far as they are applicable to the undertaking hereby authorized, and in so far as they are not varied by or inconsistent with the provisions of this act shall apply to the said Railway to the extent to which they are applicable thereto, and be construed to form part of the present act.

The said commissioners in locating the railway hereby authorized to be constructed, at any place or point where the same is not already located, shall be entitled to avail themselves of the deposit heretofore made by the Montreal, Ottawa and Western Railway Company, or by the Montreal Northern Colonization Railway Company, in the office of the clerks of the Peace, for the districts or counties through which the said railway was intended to pass, and shall forthwith cause a complete copy of such plans and books of reference to be deposited in the office of the department of public works, and such deposit shall be held to be a compliance with the provisions of *the Quebec Railway Act*, 1869, in respect of plans and surveys, and shall be held to be a sufficient basis for any proceedings to be taken under the said railway act, to the same extent and in the same manner as if the said commissioners had made and corrected maps or plans and books

of reference, and had deposited them and copies of them, in conformity with the first and second sub-sections of the eighth section of the said *Quebec Railway Act*, 1869. And the copies now deposited in the said office of the said clerks of the peace, and the copy to be deposited in the department of public works in conformity hereto, shall be treated, received, dealt with and accepted in every respect, as if the same had been made and deposited by the commissioners under the provisions of the said eighth section.

The line heretofore adopted by the Montreal, Ottawa and Western Railway, unless the same be changed by the said Commissioners, is hereby declared to be in future, the line of the Quebec, Montreal, Ottawa and Occidental Railway between Montreal and Aylmer, and of the branch to Saint Jerome, but such location shall be subject to all such alterations as shall be made therein, in conformity to the said eighth section of the said railway act; which alteration shall be made in the manner prescribed in the said section.

In cases where proceedings have been commenced by the said Montreal, Ottawa and Western Railway, or by the Montreal Northern Colonization Railway, for the expropriation or acquisition of lands for the purposes of the said railway, and have not been completed, the commissioners shall have the right to continue such proceedings under the provisions of the said *Quebec Railway Act*, 1869, provided the proprietors or persons interested in such lands, shall file with the commissioners a written consent thereto; but the said commissioners may discontinue all anterior proceedings, on the part of the said company, and may commence such proceedings *de novo* under the said *Quebec Railway Act*; and in the valuation of such properties allowance may be made to such proprietors, or parties interested, for any actual and material damage which has been caused to them by the disconti-

nuance of such previous proceedings. But no constructive or general damages shall be awarded in relation thereto.

The deposit of maps, plans and books of reference, wherever made by or on behalf of the said North Shore Railway Company, and all valuations, tenders, deposits of money, and all other steps and proceedings taken by or on behalf of the said company, towards the acquisition or expropriation of any land or property required for the purposes of the said railway, shall enure to the benefit of the said province, and the said commissioners shall have the power to take up such proceedings at whatever stage they may have arrived, and to continue and complete the same in the same manner as might have been done by the said company : and they may discontinue such proceedings and begin others, according as they may deem advisable.

12. The said commissioners may enter into contracts and stipulations with all persons, corporations, guardians, tutors, curators and trustees whatsoever, not only for themselves, their heirs, assigns and legal representatives, but also for and in the name of those whom they represent, whether minors, absentees, lunatics, married women, or persons otherwise incapable of contracting, in relation to the purchase of any land or other property necessary for the construction, maintenance and use of the railroad, upon such prices as may be agreed between them ; and they may also enter into contracts and stipulations with such persons and corporations, in respect of the amount of compensation to be paid for all damages sustained by them, by reason of anything done in virtue and under the authority of the present act.

13. As to that portion of the said railway between Aylmer aforesaid and the point in the county of Pontiac which shall be determined upon, as most suitable for crossing the Ottawa river to connect such portion of the said railway, with the subsidized portion of the Canada

Central Railway, the said commissioners shall build the same by tender and contract, after the plans and specifications therefor shall have been duly advertised; and they shall accept the tenders of such contractors as shall appear to them to be possessed of sufficient skill, experience and resources, to carry out the work or such portions thereof as they may contract for: provided always, that the said commissioners shall not be bound to accept the lowest, or any tender, if they should deem it for the public interest not to do so, and provided also that no contract under this section shall be concluded by the commissioners, until first duly sanctioned by the lieutenant-governor in council.

14. The contract, to be so entered into shall be guarded by such securities, and contain such provisions for retaining a proportion of the contract moneys, to be held as a reserve fund, for such period of time and on such conditions, as may appear to be necessary for the protection of the public, and for securing the due performance of the contract.

15. No moneys shall be paid to any contractor until the chief engineer shall have certified that the work, for or on account of which, the same shall be claimed, has been duly executed, nor until such certificate shall have been approved of by the commissioners.

16. No member of the legislature shall be a commissioner, under this act, or shall hold, or be appointed to any office of emolument under the commissioners, or be a contractor, or party to any contract with the commissioners, for the construction of the railway or any part thereof.

17. The lieutenant-governor in council, or any person or persons appointed by him, shall have power to inspect all contracts, and proceedings of the commissioners and to examine their accounts at all times.

18. The lieutenant-governor in council shall fix the rate of salary or compensation for the commissioners and the chief engineer, and shall approve of all other salaries to be awarded by the commissioners, subject in all cases to the revision and confirmation of the legislature.

19. The lieutenant-governor in council shall have the power, at any time, to suspend the progress of the work until the then next session of the legislature.

20. The treasurer of the province, shall from time to time pay to the commissioners, on their demand, all moneys required under this act, for the purposes thereof, in such manner, at such times, and in such sums, as may, from time to time, be ordered by the lieutenant-governor in council.

21. The commissioners shall furnish quarterly accounts, (or oftener if required by the lieutenant-governor in council), to the treasurer of the province, of all expenditure and liabilities made and incurred under this act.

22. The commissioners may make such arrangements with the Canada Central Railway Company, as shall be approved by the lieutenant-governor in council, for the extension of the said Canada Central Railway, from the eastern terminus subsidized portion thereof, or from such other point of junction with the said subsidized portion thereof, as may be selected to the Ottawa river, opposite the western terminus of the railway hereby authorized to be constructed, or for the construction of a bridge over the said river at the said last mentioned terminus; and also, to make such arrangements for the transit of rolling stock, goods, freight and passengers over the said subsidized portion of the said Canada Central Railway, and over the Canada Pacific Railway, or any branch thereof, as shall be approved by the lieutenant-governor in council, but such arrangements shall only be binding and conclusive, after having been approved by the legislature of the province of Quebec.

23. For the construction of that portion of the said railway lying between the said point fixed or to be fixed in the county of Pontiac, and the eastern terminus of the said subsidized portion of the Canada Central Railway in the province of Ontario, or such point thereon as may be selected as a point of junction, the said commissioners shall also have full power and authority, in their quality of such commissioners, to apply to the parliament of the Dominion of Canada, for authority to construct such portion of the said railway, subject to such regulations as the lieutenant-governor in council may prescribe, and on such terms and conditions, and with such powers, franchises and limitations, as the said parliament of the Dominion of Canada may think proper to grant and confer.

24. All that portion of sections two and five of the act of this province, 34 Vict., chap. 21, of section three of the act of this province, 36 Vict., chap. 42, and of any other provision of law, whereby a grant of lands has been given or reserved to the North Shore Railway Company or Grand Piles branch thereof, or to the Montreal, Ottawa and Western Railway Company, are hereby repealed : and the said lands are hereby re-united to the public lands of the province of Quebec, as fully and completely, as if the said sections or provisions had never been passed.

25. The said commissioners are authorized to raise by way of loan, a sum not exceeding three millions of dollars, for the construction of the said road and its branches, and for such purpose to issue bonds or debentures, and they may, by the lieutenant-governor in council, be authorized to guarantee in the name of the province, that the said railroad shall be completed and put in operation.

26. Such bonds or debentures shall be signed by one of the commissioners and countersigned and registered in a special book by the secretary of the said commissioners, and they shall be certified, has having issued under this act, by the treasurer of the province.

They shall be made payable in thirty years, and shall bear interest at a rate not exceeding six per cent per annum, payable semi-annually, on presentation of the interest coupons thereunto annexed.

The interest coupons annexed to the debentures shall be signed by the secretary of the said commissioners.

27. The bonds or debentures issued by the said commissioners, may be made payable in Canada or elsewhere, and in currency or sterling, as they shall deem most expedient to facilitate the negotiation thereof.

28. The said commissioners may sell the bonds or debentures issued in virtue of the present act and dispose of the same at such prices as they may agree upon, and the lieutenant-governor in council shall approve or direct : and they may guarantee the due payment of the principal and interest of the said debentures by first mortgage or hypothec on the said line of railway, and the lands, buildings, rolling stock, plant, and upon all other property, and revenue, and the commissioners shall be bound from time to time, to execute any deed or other instrument which the lieutenant-governor in council may approve, which may be requisite to perfect the charge intended to be created by such mortgage or hypothec, and to perfect the securities thereby intended to be given, and to enable such charge to be made completely effectual by registration thereof, in accordance with the laws of this province.

29. Every such mortgage or hypothec may be from time to time made to any corporation, or to any person or persons in the United Kingdom, or in the Dominion of Canada or elsewhere, as trustees for the holders of the said debentures ; which debentures shall refer to such mortgage or hypothec, and shall be countersigned by the trustees, or one of them, or by some person in their name duly authorized by them in that behalf, for the purpose of identifying such debentures as those which are to be

secured by such mortgage or hypothec; but any bank, or company lawfully incorporated for financial purposes, may be also appointed trustees, and they are hereby authorized to accept such appointment and perform the duties connected therewith, as described in such mortgage or hypothec.

30. Every such mortgage or hypothec may contain an authority to the trustees to take possession of, to work and sell the railway, lands and other property therein comprised, upon default by the commissioners to pay the interest of the debenture to be secured thereby, or any part thereof, within such delays respectively, and upon such terms and conditions, as the said commissioners shall agree on, and the lieutenant-governor in council approve or direct, as set forth in such mortgage and hypothec.

31. Every such mortgage or hypothec, upon being duly registered in accordance with the laws of this province, by the registration thereof or of an authentic notarial copy thereof, in the registry offices for all the registration divisions in which shall be situate any part of the railway, lands or other property intended to be affected thereby, and without the registration of any of the debentures issued shall, for the purposes of this act, and of the loan to be made in virtue thereof, take effect in priority from the date of its registration, without reference to the date or dates at which the debentures to be secured thereby shall be issued, and at whatever subsequent date or dates they shall be issued; and except when otherwise provided in the mortgage or hypothec, all the debentures to be issued, upon the security thereof, shall be secured thereby *pari passu*, and without any preference of one over the other, in consequence of the respective dates of issue thereof, or for any other reason.

32. The trustees may, at all times, in their own names, and without the concurrence or co-operation of any of the debenture-holders, enforce all the rights which such

mortgage or hypothec shall purport to confer upon them, and all contracts into which, for the purposes of benefitting or protecting the debentures holders, they may enter with the said commissioners, respecting the construction of the railway, or with any other persons, in precisely the same way as if such contracts, and such mortgage or hypothec had been made to them for their own benefit, and that they were the holders of all the debentures issued thereunder and intended to be secured thereby : and for such purpose they may, if necessary, bring or defend in their own names, any actions or suits in any court in the province of Quebec.

33. It may be a condition of such mortgage or hypothec that upon the said trustees assuming to take possession of and work the said railway, they, the said trustees, shall be bound and obliged to render periodical accounts to the commissioners of the earnings and receipts of the said road, and to pay over to the said commissioners any surplus of revenue over and above what is required for the payment of the claims of the said debenture-holders, and over and above the expense of working and maintaining the said road, the whole subject to such penalty, as in and by the said mortgage may be stipulated for and provided.

34. A sinking fund is hereby established, to which the said commissioners shall pay an annual sum of one per cent. on the amount of the bonds or debentures issued in virtue of this act, and such sum shall be by them paid over to the provincial treasurer, in equal semi-annual payments, and shall be invested by and permitted to accumulate under the management of the said treasurer.

35. Such sinking fund may be employed in the redemption of the debentures so issued, in accordance with the instructions of the provincial treasurer, as approved by the lieutenant-governor in council.

36. From and out of the revenue of the said road, after

payment of the current expenses for the maintenance and working thereof, the first claims to be paid shall be the interest on the bonds and debentures issued by the said commissioners under the present act, and the sums to be devoted to the sinking fund established under section 34 ; the interest payable to the municipal corporations as hereinbefore stated shall be the second claim ; and the balance shall be the property of the crown and shall form part of the consolidated revenue fund of the province.

37. The municipal grants or subscriptions for stock mentioned in schedule A, herunto annexed, made under the several by-laws authorizing the same in favor of the said North Shore Railway Company, and of the said Montreal, Ottawa and Western Railway Company, hitherto known as the Montreal Northern Colonization Railway Company, shall be and are vested in the Quebec, Montreal, Ottawa and Occidental Railway, and shall be paid to the treasurer of the province.

38. The corporations which have made such grants or subscribed for the said stock shall not be admitted to plead by way of exception, or for the purpose of modifying their engagements, the lapse of time, or negligence on the part of the companies, or either of them, in fulfilling the conditions or any of the conditions, under which the said grants or subscriptions for stock were made ; and the said several by laws are hereby declared to be obligatory, legal and effectual for all purposes whatsoever ; and the said corporations shall be respectively bound and obliged to execute, issue and deliver to the provincial treasurer, the total amount of their said respective bonds or debentures, the issue whereof is authorized by such by-laws, and the treasurer may when necessary, and as the case may require, negotiate such bonds or debentures.

39. The several amounts of the subscriptions of the municipal corporation, to the capital stock, of the « North

Shore Railway Company,» or of the «Montreal Northern Colonization Railway Company,» and of the bonuses granted to such companies, including the sums already paid, shall be deemed to be invested in the said road, and shall bear interest, to be paid by the said commissioners to the said corporations, at such rate, not exceeding five per centum per annum on their respective amounts, as the annual revenue of the said road will admit of, after payment of the cost of maintenance and running expenses, of the interest on bonds or debentures issued under section 25, and of the sinking fund established under section 34, —such interest not to begin to run, until after the whole of the said road shall have been completed and put in operation.

40. The balance of the various subsidies or grants accorded by the acts of this province now in force, to «the North Shore Railway Company,» and to «The Montreal Northern Colonization Railway company,» and the sums subscribed by the cities of Québec, Montreal and Three Rivers, and the several other corporations and municipalities, shall be paid by the treasurer of the province, to the said commissioners for the purposes of this act, and shall be expended on the parts of the road, in respect of which such subsidies, grants and subscriptions were given ; and the said payments shall be made subject to the terms of the proviso, relating to the road from the city of Three Rivers to the Grand Piles, and to the establishment of steam navigation on the St. Maurice, contained, in subsection 1 of section 16 of the act of this province, 37 Vict., cap. 2, and also subject to the proviso contained in section 21 of the said act.

41. The lieutenant-governor in council may grant to the said commissioners for the construction of the railway to be built in virtue of the present act, another additional subsidy of two millions three hundred and twenty seven thousand dollars, as representing the value of the grant

in land accorded to the North Shore and Montreal Northern Colonization railways.

42. The lieutenant-governor in council may, so soon as the said road or any section thereof shall have been completed, lease the said road or section thereof, to any person or persons, or to any corporation, subject to the approval of the legislature.

43. And to avoid all doubts it is hereby enacted that «the Quebec, Montreal, Ottawa and Occidental railway» is hereby vested with all the rights, powers, immunities, franchises, privileges and assets, heretofore by any act granted unto either the North Shore Railway Company, or the Montreal Northern Colonization Railway Company, subject nevertheless to any alterations, limitations, or restrictions herein contained, and so far as this legislature may or can do, with all the rights, powers, immunities, franchises, privileges, and assets granted by the parliament of the Dominion of Canada to the Montreal, Ottawa and Western Railway Company.

44. Notwithstanding anything to the contrary, in any of the hereinbefore recited acts, or in any of the by-laws hereinbefore alluded to, the said several corporations shall not be entitled to appoint or to be represented by any directors in the management of the affairs of the company : and the directorate contemplated and provided for by the provisions of the said acts is hereby abolished.

45. The contracts or agreements hereinbefore alluded to for the transfer of the rights and assets of the North Shore Railway Company and of the Montreal, Ottawa, and Western Railway Company, to the province of Quebec being ratified, the rights of the individual shareholders, in the said companies, shall be transferred to and vested in the said commissioners in their quality, to and for the uses of this province.

The stock of individual shareholders in the said com-

panies, or so much thereof as shall have been paid up, shall be refunded to them.

46. And it is further enacted that the said commissioners, in their said quality by and with the consent of the lieutenant-governor in council, may and they are hereby authorized to apply to the Parliament of Canada, for any legislation which may be deemed necessary, for the purposes of this act.

47. The present act shall come into force on the day of the sanction thereof.

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